Claims

1. Method of determining an eye diagram of a digital signal, wherein by determining an eye width of said eye diagram.

2. Method according to claim 1, wherein by the following steps:

   - obtaining a first phase difference information corresponding to a first phase difference between said digital signal and a clock signal associated to said digital signal,

   - obtaining a second phase difference information corresponding to a second phase difference between said digital signal and said clock signal,

   - determining said eye width based on said first phase difference information and said second phase difference information.

3. Method according to claim 2, wherein said first phase difference is measured between said digital signal and a rising edge of said clock signal, said rising edge corresponding to a start of a bit time, and in that

said second phase difference is measured between said digital signal and a falling edge of said clock signal, said falling edge corresponding to an end of said bit time.

4. Method according to claim 2 or 3, wherein by the following steps:

- integrating in a first calculation cycle said first phase difference information of N many subsequent bits of said digital signal to obtain a first phase difference voltage, and, after said first calculation cycle,

- integrating in a second calculation cycle said second phase difference information of N further subsequent bits of said digital signal to obtain a second phase difference voltage.

5. Method according to claim 4, wherein by determining an eye width voltage based on said first phase difference voltage and on said second phase difference voltage, in particular based on a difference between said first phase difference voltage and said second phase difference voltage, said eye width voltage corresponding to said eye width of said eye diagram.

6. Method according to one of the preceding claims, wherein said digital signal is transmitted via an

electrical or/and optical transmission line or via a radio link.

7. Method according to one of the claims 2 to 6, wherein said first phase difference information and/or said second phase difference information are controllably delayed, preferably by a multiple of a/said bit time.

8. Method according to one of the claims 2 to 7, wherein said first phase difference information and/or said second phase difference information and/or a bit value information, which is preferably obtained by a decision gate, and/or a phase difference information selection signal are combined, preferably by means of a combinatoric network according to a predefined scheme, and in that an output of said combinatoric network is integrated in said first and/or said second calculation cycle.

9. Method of controlling an eye width of an eye diagram of a digital signal, comprising a method of determining said eye diagram according to one of the preceding claims and comprising a step of adjusting a phase of said clock signal, said adjustment of said phase of said clock signal depending on said eye width.

10. Method according to claim 9, wherein said eye width is

used by computation means that control phase adjustment means, preferably electronic phase adjustment means, for said adjustment.

11. Method according to claim 9 or 10, wherein by using said eye width for controlling transmission control means, such as polarization mode dispersion - mitigation means and the like, which controllably influence electrical and/or optical characteristics of an electrical/optical transmission line that is used for transmitting said digital signal.

12. Method according to one of the claims 9 to 11, wherein by maximizing said eye width.

13. Method according to one of the claims 9 to 12, wherein by deriving time jitter information of said digital signal by means of

- analysing a relation between said eye width and a phase difference between said clock signal and said digital signal, and
- obtaining time jitter information from a gradient of said eye width with respect to said phase difference and/or from said eye width.

14. Eye monitor for determining an eye diagram of a digital signal, wherein by determining an eye width of

said eye diagram.

15. Eye monitor according to claim 14 , comprising:

- phase detection means for obtaining a first phase difference information and a second phase difference information between said digital signal and a clock signal associated to said digital signal,

- integration means for integrating said first phase difference information and said second phase difference information to obtain a first phase difference voltage and a second phase difference voltage,

- computation means for determining an eye width voltage based on said first phase difference voltage and on said second phase difference voltage, in particular based on a difference between said first phase difference voltage and said second phase difference voltage, said eye width voltage corresponding to said eye width of said eye diagram.

16. Eye monitor according to claim 15, further comprising phase adjustment means for adjusting a phase of said clock signal.

17. Receiver for receiving a digital signal, wherein by being capable of performing a method according to one of the claims 1 to 13.

18. Receiver according to claim 17, wherein by comprising an eye monitor according to one of the claims 14 to 16.